Many have already commented on the effects that BPL would have on reception of HF and lower VHF signals. The signal levels presented by widely deployed BPL would essentially render the frequencies below 30 MHz pretty much useless for receiving anything but the very strongest of signals. My estimate is that over 2/3 of the signals now perfectly usable for communication would be below the noise level created by the radiation of BPL signals, based on the signal levels normally observed on the short wave bands compared to the signal levels shown in the ARRL demonstration videos.

Some of the services that would be drastically affected would include Amateur Radio, international short wave broadcast, and many military communications. Often, these services operating on the HF bands are the only viable means of communication in rural areas, disaster stricken areas, and even less industrialized countries. BPL radiation can and will propagate for long distances due to ionospheric effects, just as the currently used HF transmissions can now be heard throughout the world. The noise generated by BPL would be a worldwide plague, not one just isolated to the nearby area where BPL is deployed. As more BPL is deployed, the noise would increase proportionately.

On the basis of these interference effects alone, BPL should not be permitted.

Additionally, the pollution of the electrical power service into homes and businesses with high frequency signals will have a negative effect. As one example, digitally based televisions, especially those used for HDTV viewing, will have degraded performance. This is because the digital converters used within these sets are sensitive to power supply variations, which cause a form of jitter in the digital signal stream as a result of the BPL signal being transmitted through the power supply. This jitter reduces the overall signal to noise ratio of the converted signal, and can also introduce artifacts in the picture and the sound. This phenomena has been observed and measured for at least a decade in digital audio systems plugged into the existing power mains, just from the noise conducted onto the lines from switching type power supplies. In comparison, BPL

will cause
much higher levels of interference, due to both the amplitude and the frequencies
employed. Digital video systems are much more sensitive to power system noise
because of the higher data rates. This suggests that in order for digital televisions
and HDTV sets to be an advance over the sets they are replacing, much more
expensive power filtering systems would have to be installed into the sets to
minimize the effects of the BPL signals riding on the power lines. Consumers
would be hurt by the poorer performance of the televisions, or the increased cost
to filter out BPL.

Additionally, it is somewhat disingenuous that the petitioners in favor of permitting
BPL are asking for relaxation of the existing radiation limits, when they are
currently claiming that the test systems in place do not violate the existing
regulations. As clearly shown in the ARRL demonstration videos, the latter is not
the case.

It is baffling to me that the power industry is even interested in using this
technology. Since the high speed interconnects to the hubs will likely be
transmitted over optical fibers, it is only the so-called "last mile" that will use BPL
technology. Wouldn't the use of an existing technology, 802.11 "WiFi", serve the
same purpose? The power companies could still use their valuable assets of rights
of way, and another asset they own - tall poles upon which 802.11 hubs could
easily command nearly ideal terminal points for line of sight transmission to
customers. It would seem that this solution would not cause the problems of BPL,
and would actually be less expensive for the consumer.

Finally, I don't believe that a strong economic case of providing competition for the
benefit of the consumer has been established. At present, there are often at least
three viable sources for high speed internet and data service in many areas. DSL,
CATV, and wireless serve most of the areas where the business volume can support
them. Presumably, these are the most likely areas for BPL technology to be
deployed. Generally, none of these providers have reduced their rates, at least

beyond the introductory marketing "come on" period, when competition was added. Will BPL change the marketplace? Or will BPL just pollute the airwaves and
the power grid for a decade until the last units are removed from service?